



# Geo Technologies

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Expert Geo Consultants for Soil / Rock / Ground Water Investigations

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## REPORT OF SOIL INVESTIGATION FOR THE PROPOSED BUILDING AT CHERLAPALLY (V), KAPRA MANDAL, MEDCHAL-MALKAJGIRI DISTRICT

### 1. INTRODUCTION

M/s Summit Builders, rep. by its Partner Sri Soham Modi S/o Late Sri Satish Modi, are proposing to construct a building in a portion of land in Sy. Nos. 11, 12, 14 to 18 & 294, situated at Cherlapally (V), Kapra Mandal, Nedhcal – Malkajgiri District, T.S.

Total Plot Area is 648 sq yds. The proposed building comprises RCC structure of S+4 upper floors.

The aim of this Report is to evaluate the nature and depth of soils at the site, and to determine the safe bearing capacity of the foundations accordingly.

### 2. FIELD INVESTIGATIONS

One (1) soil sample collected from 2 m depth was sent to the Lab for testing. It consists of silty gravel. No water is reported in the pit.

### 3. LABORATORY TESTING

The soil sample was tested in the Soil Mechanics Laboratory at Hyderabad. The following tests were conducted:

Specific gravity

Bulk Density

Grain size distribution

Direct Shear test

All the tests were conducted in accordance with IS: 2720 (Code of Practice for Testing of Soils).

### 4. RESULTS

Table 1 gives the results of physical and engineering tests on soil sample. Open foundations are recommended. Appendix gives the calculations for SBC.

### 5. RECOMMENDATIONS

Based on Lab testing of one sample, the following Recommendations are given:

- The soil sample consists of silty gravel (GM).
- No water correction is applied.
- SBC is recommended as 30 tonnes per sq m for foundations resting at 2 m depth. This is based on the assumption of footings of width 2 m. The actual size would be based on the loads from the super structure.
- This report is based on a single trial pit and is not adequate. Detailed investigation is recommended for finalization of SBC.

  
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PROPOSED BUILDING AT CHERLAPALLY (V), KAPRA MANDAL,  
MEDCHAL-MALKAJGIRI DISTRICT

TABLE-1: SUMMARY OF SOIL PROPERTIES

Property	Location
	TP 1
Density, KN / cu m	18.7
Cohesion, KN / sq m	12
Angle of internal friction, deg	33

APPENDIX: CALCULATION OF BEARING CAPACITY

Assumed width of foundation... 2.0 m

Assumed depth of foundation... 2.0 m

Unit wt. = 18.7 KN / cu m

Cohesion = 12 KN / sq m (Neglected)      Angle of internal friction = 33 deg.

No correction is needed for water table.

Using IS Code 6403 – 1981 formula:

$N_c = 29.37$      $N_q = 18.39$      $N_r = 23.55$

Net, Ult B.C. =  $1.3 c N_c + r D (N_q - 1) + 0.4 r B N_r$

= 1002 KN per sq m

With a F.S. of 3.0, SBC = 334 KN per sq m

***Recommended Safe Bearing Capacity is 30 tonnes per sq m.***

**SBC will be finalized after detailed investigations.**

  


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